Building Research Establishment Digest

CI/SfB (Ajt)

DIGEST 195

November 1976

Index

Numerical list of current titles *(alphabetical index begins on page 3)*

Key r = minor revision E = new edition

8	Built-up felt roofs	(47)Ln2	1970 E
12	Structural design in architecture	(K)	1969 r
13	Concrete mix proportioning and control	Yq(D4)	1971 E
15	Pipes and fittings for domestic water supply	81(53.1)Yy	1968 r
18	Design of timber floors to prevent decay	(23)Hi(S4)	1970
27	Rising damp in walls	(21)(12)	1969 E
33	Sheet and tile flooring made from thermoplastic binders	(43)Tn6	1971 r
35	Shrinkage of natural aggregates in concrete	Yp1	1971 r
	Estimating daylight in buildings—	(N7)	
41	Part 1		1970 E
42	Part 2		1969 r
	Design and appearance—		
45	Part 1	Ye3(S)	
46	Part 2	Yy(S)	
47	Granolithic concrete, concrete tiles and terrazzo flooring	(43)Yq5	1970 E
49	Choosing specifications for plastering	Pr2	1971 r
53	Project network analysis	(A5t)	1976 r
54	Damp-proofing solid floors	(13)(12)	1971 E
	Painting walls—	(4–)Vv	
55	Part 1	Now superseded by 197 198	1969 r
56	Part 2		1971 r
57	Part 3		1971 E
59	Protection against corrosion of reinforcing steel in concrete	Hh2(S2)	1970 r
60	Domestic chimneys for independent boilers	81(21.8)	1973 E
61	Strength of brickwork, blockwork and concrete walls	(21.1)(K)	1970
	Soils and foundations—	(16)L4	
63	Part 1		1970
64	Part 2		1972 r
67	Part 3		1970 r
69	Durability and application of plastics	Yn6(S)	1972 E
70	Painting: Iron and steel	Vv	1973 E
71	Painting: Non-ferrous metals and coatings	Vv	1969 r
72	Home-grown softwoods for building	Yi	1972 E
73	Prevention of decay in external joinery	(31)Xi(S4)	1973 E
75	Cracking in buildings	(S6)	1970
77	Damp-proof courses	(9–)Yy(12)	1971 r
79	Clay tile flooring	(43)Sg	1971
80	Soil and waste pipe systems for housing	81(52.1)	1975 r
81	Hospital sanitary services: some design and maintenance problems	41(52)	1971
83	Plumbing with stainless steel	(53)Ih3	1973 E
85	Joints between concrete wall panels: open drained joints	(9–)Gf	1971 r
89	Sulphate attack on brickwork	Fg2(S2)	1971 r
93	Cellular plastics for building	Yn7	1974 E
95	Choosing a type of pile	(17)	1972
98	Durabilty of metals in natural waters	Yh(S2)	1974 r
	Sound insulation of traditional dwellings—		
102	Part 1: walls	81(21)(M2)	1971 r
103	Part 2: floors	81(23)(M2)	
104	Floor screeds	(43)Ey	1973 E
106	Painting woodwork	Vv	1974 E
108	Standard U-values	(J4)	1975 E
109	Zinc-coated reinforcement for concrete	Hh2	
110	Condensation	(16)	1972 E
111	Lightweight aggregate concretes: structural application	Yq7(K)	
113	Cleaning external surfaces of buildings	(W7)	1972 E
114	Accuracy in setting out	(D2)	
115	Soil and waste pipe systems for office buildings	32(52.1)	1974 r
	Vibrations in buildings—	(L5)	
117	Part 1		
118	Part 2		
119	Assessment of wind loads	(K4f)	1974 r
120	Corrosion-resistant floors in industrial buildings	(43)Yy(S2)	
121	Stainless steel as a building material	Yh3	
122	Security	(E2h)	

123	Lightweight aggregate concretes	Yq7	
125	Colourless treatments for masonry	Vu6	
126	Changes in the appearance of concrete on exposure	Yq(S)	
127	An index of exposure to driving rain	(13)	
128 129	Insulation against external noise— Part 1 Part 2	(M2)	
132	Wilful damage on housing estates	8(S4)	
133	Concrete pumping	Yq(D3)	
134	Flow charts to control progress on housing sites	81(A5)	
137	Principles of joint design	(9–)(F6)	E 77
138	Operating costs of services in office buildings	32(5–)(Y4)	
139	Control of lichens, moulds and similar growths	Yy(S4)	
140	Double glazing and double windows	(31)Ro5(J2)	
141	Wind environment around tall buildings	(15)	
142	Fill and hardcore	(1–)Yp	
143	Sound insulation: basic principles	(2–)(M2)	1976 r
144	Asphalt and built-up felt roofings: durability	(47)Ps(S)	
145	Heat losses through ground floors	(13)(J4)	
146	Modernised plumbing systems	(53)(W6)	
147	Permissible spans for trussed rafters	(27)Xi(F4j)	
149	The co-ordination of building colours	(G5)	
150	Concrete: materials	Yq	1974 r
151	Soakaways	(52.5)	
152	Repair and renovation of flood-damaged buildings	(W7)	
154	Local housing programmes	06:8(E2)	
155	Timber fire doors	(32)Xi(R1)	
156	Specifying timber	Yi	
157	Calcium silicate brickwork	(2–)Ff1	
158	Honeycomb fire dampers	(R1)	
160	Mortars for bricklaying	Yq4	
161	Reinforced plastics cladding panels	(41)Xn8	
162	Traffic noise and overheating in offices	32(J)	
163	Drying out buildings	(D)(14m)	
164 165	Clay brickwork— Part 1 Part 2	Fg2	
166 167	European product-approval procedures— Part 1 Part 2	(A7)	
168 169	Refuse handling— Part 1 Part 2	(5–)	
170	Ventilation of internal bathrooms and WCs in dwellings	94(57)	
172	Working drawings	(A3t)	
173	Smoke control in single-storey shopping malls	(R1)	
174	Concrete in sulphate-bearing soils and groundwaters	Yq(S2)	
175	Choice of glues for wood	Yt3	
176	Failure patterns and implications	(S)	
177	Decay and conservation of stone masonry	Ye(S)	
178	Autoclaved aerated concrete	Yq6(E1)	
179	Electricity distribution on sites	(B2c)	
180	Condensation in roofs	(27)(16)	
181	Timber efficient and economic use	Yi(Y7)	
182	Natural finishes for exterior timber	Yu3(S4)	
184	Demolition and construction noise	(M5)(D)	
185 186	Prediction of traffic noise Part 1 Part 2	(M5)	
187	Sound insulation of lightweight dwellings	81(M2)	
188 189	Roof drainage Part 1 Part 2	(52.5)	
190	Heat losses from dwellings	(J2)	
191	Energy consumption and conservation in buildings	(U4)	
192	The acoustics of rooms for speech	(M)	
193	Loudspeaker systems for speech	(64.3)(M)	
194	The use of elm timber	Yi1	

ACCURACY
in setting out 114

ACOUSTICS (*see* Sound)

ADHESIVES
thermoplastics flooring 33
types for wood 175

ADMIXTURES (*see* Concrete)

AGGREGATES (*see* Concrete)

AIR CONDITIONING
offices, operating costs 138

AIR LOCKING
heating systems 98

AIRBRICKS
under-floor ventilation 18
—effect on heat loss 145

ALKALINE MOISTURE
attack on floorings 33

ALUMINIUM
painting 71
rainwater goods 188
U-values, corrugated sheeting 108

APPEARANCE OF BUILDINGS
effect of design on weathering 45, 46

APPROVAL PROCEDURES
building products, Europe 166, 167

ASBESTOS-CEMENT
painting 55
rainwater goods 188
U-values, corrugated sheeting 108

ASPHALT, MASTIC
damp-proof courses 77
damp-proof membranes 54, 120
roofing, durability 144

AUDITORIA
acoustics 192, 193

BALLVALVES
valves and floats 15

BARS
security, for windows 122

BATHROOMS, INTERNAL
ventilation 170

BATTENS
flooring 18
wall linings 27

BITUMINOUS MATERIALS
damp-proof courses 77
damp-proof membranes 54, 120
paint 55, 56, 70
roofing 8
—condensation 180
—durability 144

BLINDS
in double windows 140

BLOCKS
aerated concrete 178
lightweight aggregate concrete 111, 123

BLOCKWORK
fire-resistance 111, 123
mortars 160
plastering 49
strength 61

BOILERS
domestic, flues and chimneys 60
offices, operating costs 138
scale formation 146

BRICKWORK, BRICKS (*see also* Mortars)
bricks, calcium silicate 157
bricks, clay, properties 164, 165
—damp-proof course 77
—sulphate content 89
bricklaying, cold weather 160
brickwork
—cleaning 113
—cracking 75
—efflorescence 165
—frost resistance 157, 164
—moisture expansion 75
—mortars 160
—movement joints 157
—painting 55
—plastering 49
—pointing 160
—staining 46
—strength 61
—sulphate attack 89
—thermal conductivity 108
—vapour resistivity 110
—water-repellent treatments 125
—weathering 46

CAST IRON
rainwater goods 170

CAST STONE
appearance 46
cleaning 113

CAVITIES
thermal resistance 108

CAVITY WALLS
foamed plastics, injection 93
sound insulation, principles 143
strength 61

CEDAR, WESTERN RED
characteristics 72
maintenance 46, 106

CEILINGS
staining from flues 60
suspended, sound insulation 103

CHIMNEYS (*see* Flues)

CISTERNS
galvanised steel 15
overflow pipes 15
plastics 69

CLAY PRODUCTS (*see also* Brickwork)
corrosion-resistant floorings 120
floor tiles 79
terra-cotta, weathering 46

CLAY SOILS
foundations 67
movements and structure 63
movements cracking brickwork 75
pile foundations 95
sampling and identification 64
sulphates, distribution 174

CLEANING (*see* Maintenance)

COATINGS
on concrete, against sulphates 174
on metals—aluminium 70
—nylon 69
—pvc 69
—zinc 70
on steel reinforcement
—cement slurry 123
—zinc 109
zinc, in corrosive waters 98

COLD WATER SERVICES (*see* Water)

COLOUR
co-ordination 149

CONCRETE
materials
admixtures
—calcium chloride, corrosion of steel 109, 126
drying shrinkage 126
—types and usages 150
aggregates
—alkali-aggregate reaction 126
—dense 150
—expanded polystyrene beads 93
—lightweight 123, 150
—properties 13
—pyrite staining 126
—reactive ironstone 126
—sea salt, effect on floorings 54
—shrinkage 35, 126
cements
—sulphate resistance 174
—types 150
reinforcement
—corrosion following concrete carbonisation 126
—protection, cover depth and concrete quality 59
—protection, zinc coatings 109
mixes and placing
mix
—design for pumping 133
—design to resist sulphate attack 174
—measurement of materials 13
—proportions and quality control 13
—specification 13
—specification for pumping 133
—water/cement ratio 13, 174
—workability 13
—workability lightweight aggregate concrete 123
placing
—compaction 13
—by pump 133
protection
—curing 13
—sulphate attack 174
surface finish
—falls, currents, cambers 120
—level 47, 104

properties
as base for painting 55
chemicals
—resistance to attack 150
—salt crystallisation, damage 126
—sea water, damage 126
—sulphate-resistance 174
—sulphurous gas attack 126
cleaning external surfaces 113
density, lightweight aggregate concretes 123
drying shrinkage 75, 126
—calcium chloride, effect on 126
—lightweight aggregate concrete 123
—measurement 35
fire
—refractory concrete 150
—resistance 111, 150
—resistance of lightweight aggregate concrete 111, 123
frost
—damage 126
—resistance 150
strength 13, 150
strength, concrete walls 61
strength, lightweight aggregate concrete 111, 123
thermal conductivity, lightweight aggregate concrete 123
thermal insulation 150
weathering, effect of design 46

CONCRETE, AUTOCLAVED AERATED
manufacture, properties and uses 178

CONDENSATION
design to avoid 110
domestic flues 60
double glazing 140
estimating risk 110, 140
floors 18
paints, anti-condensation 56, 110
roofs 8, 110, 180
vapour barrier 110

COPPER
damp-proof courses 77
painting 71
theft from sites 122
water services 98

CORROSION
bimetallic 146
prevention
—floors 120
—iron and steel 70
—metals in natural waters 98
—non-ferrous metals 71
—steel reinforcement 59, 120

CRACKING
buildings 75, 176

CRITICAL PATH
network analysis 53

CYLINDERS AND TANKS, HOT WATER STORAGE
anodic protection 98
copper 98
galvanised steel 98

DAMPNESS, RESISTANCE TO MOISTURE PENETRATION (*see also* Condensation)
dampness
—effects on Portland stone 45
—measuring sub-floor 18, 163
—measuring timber 163
—measuring wall 55, 163
—sulphate attack on brickwork 89
—walls 27
damp-proof courses
—bridging 27
—continuity with membrane 54
—injection 27
—insertion 27
—lightweight concrete block walling 123
—materials, properties, location 77
damp-proof membranes
—continuity with dpc 54
—in corrosion-resistant floors 120
—in solid floors 18, 54
dehumidifiers 163
driving rain, exposure index 127
drying after flood 152
drying walls for painting 55, 57, 163
drying-out a building 163
electro-osmosis 27
flood-water damage 152
humid environment, effect on metals, pipes, etc. 98
joinery, protection on site 73
roofs 180
walls
—rising damp 27
—water-repellents 56, 125

DECAY
external joinery 73
masonry 177
preventive treatments 72, 106
wooden floors 18

DENMARK
product approval 167

DESIGN
appearance and durability 45, 46
joints 137
security 122
structural, in architecture 12
vandalism 132
wind environment, tall buildings 141
working drawings 172

DEZINCIFICATION
hot-pressed brass 98

DOORS
fire-doors, wood 155
painting and preservation 106
security 122

DOUBLE GLAZING
generally 140
sound reduction 128, 140
sun-controls in 140
ventilation 129, 140

DRAINAGE, RAINWATER, SOIL AND WASTE
floors, industrial 120
hospitals, design and maintenance of sanitary services 81
rainwater
—discharge into soil stack 80
—pipes and gutters 188, 189
soakaways 151
soil and waste systems
—dwellings 80
—offices, multi-storey 115

DRYING-OUT (*see* Dampness)

DURABILITY, WEATHERING, DEFECTS, FAILURES IN GENERAL
algae, lichens and mosses, control 139
asphalt roofing 144
bitumen felt roofing 144
brickwork
—effect of design on weathering 46
—frost resistance 165
—sulphate attack 89
—washings from limestone 46
buildings—cracking 75, 176
—defects and failures 176
concrete
—changes in appearance on exposure 126
—effect of design on weathering 46
concrete, aerated—durability 16
flood damage, repair and renovation 152
metals
—durability in natural waters 98
—effect of design on weathering 46
—stainless steel 121
—stainless steel plumbing 83
paint systems
—walls 56
—woodwork 106
plastics
—durability and weather 69
—grp cladding 161
Portland stone, weathering and appearance 45
renderings—sulphate attack 45
slate
—effect of design on weathering 46
terra-cotta
—effect of design on weathering 46
wood
—effect of design on weathering 46
—external influences on surfaces 106
—homegrown softwoods 72

DUSTBINS
refuse containers generally 169

DWELLINGS
chimney design 60
condensation 110
energy consumption 191
heat losses 190
housing programmes 154
noise protection (Heathrow Airport) grants scheme 129
progress control, housing contracts 134
refuse output and handling 168
security 122
soil and waste systems 80
sound insulation
—lightweight structures 187
—traditional structures 102, 103
vandalism 132

ventilation, internal bathrooms and WCs 170
water services
—modernising 146
—pipes and fittings 15
—stainless steel 83

EFFLORESCENCE
brickwork 165
painted walls 55, 56

ELECTRICAL INSTALLATIONS
construction sites, distribution 179
flood damage 152
offices, operating costs 138

ELECTRO-OSMOSIS
damp-proofing 27

ENERGY
consumption and conservation in buildings 191

ENVIRONMENT
atmospheric conditions affecting condensation 110
climates
—internal, influence on condensation 110
—internal and external, effects on window joinery 73
exposure grading, UK 127
ground effect on wind speed 119
noise
—effect on solar heat gain 162
—effect on ventilation needs 129, 162
—outdoor 128, 129
—road traffic 153
rain, index of driving rain, UK 127
refuse storage and disposal 169
wind around tall buildings 141
winds speeds in UK 119

EXCAVATION
groundwater
—analysis 174
—level determination 64
trial holes 64

FELTS
bituminous
—damp-proof courses 77
—roofing 8, 180
sarking, plastics 69

FENCES, GATES
painting wood 106
security 122
vandalism 132

FIRE
concrete for protection 150
doors, wood 155
fire gradings, built-up felt roofs 8
honeycomb fire dampers 158
plastics
—behaviour in fire 69
—cellular, behaviour in fire 93
precautions in ventilation ducts 158, 170
resistance
—aerated concrete 178
—concretes 111
—lightweight aggregate concrete block walling 123
smoke control 173
sprinklers 173

FLOORING
effect of alkaline moisture 33
impact noise 103
impervious, on damp timber base 18
materials
clay tile 79
concrete 47
corrosion-resistant 120
granolithic 47
magnesium oxychloride corroding metals 59, 98
pvc, flexible 33
pvc (vinyl) asbestos 33
quarry tile 79
terrazzo 47
thermoplastic 33
wood, block, strip 18
plasticiser migration 33
tolerance to moisture 54

FLOORS
concrete
solid
—damp-proof membranes 18
—sulphate attack 54, 57
suspended
—deflection 35, 75
—sound insulation 103
—steel corrosion, preventing 59, 120
condensation 110
corrosion-resistant 120
heated
clay tile finishes 79
concrete finishes 47
screeds 104
heat losses, ground floors 145
screeds
concrete 104
drying time 33, 54, 104
dryness, testing 18, 33, 163
floating 103, 104
for plastics floorings 33
for terrazzo 47
heated 104
levels 104
lightweight aggregate concrete 104, 123
synthetic anhydrite 104
sound transmission 102, 103, 143, 187
thermal insulation 18, 93, 145
wood
decay, prevention 18
floating 103
sound insulation 103
ventilation 18

FLUES, CHIMNEYS
chimneys
—design for domestic boilers 60
—sulphate attack 89
—thermal insulation 60
—wind loads 119
chimney stacks
—damp-proof courses 77
—wind effects on roofs 119
flues for domestic boilers 60

FOUNDATIONS, SOILS
fill ('made' ground) 142
foundations
—choice of 67
—filled sites 142
—frost heave 75
—pad footings 67
—pile 63
—pile, choosing type 95
—raft 63, 67
—short bored-pile 67
—strip footings 67
—sulphate-resisting concrete 174
groundwater
—general 64
—sampling and analysis 174
—sulphate-bearing 174
site investigation 64
—fill 142
soils
—effect of tree roots 63, 67
—identification 64
—made-up ground 75
—movements 63, 75
—properties 63
—sampling and analysis 174
—sulphates, occurrence 174

FRANCE
product approval 166

FROST
damage to
—brickwork 75
—concrete 126
—foundations 75
—masonry 177
heave 63, 75
protection
—concrete 150
—mortar 160
resistance
—aerated concrete 178
—bricks 165

FUNGI, ORGANIC GROWTHS
algae, lichens, mosses; control 139
cellar rot 18
dry rot 18, 106

GALVANISED COATINGS
corrosive waters, action 98
metals 70
painting 71
reinforcing steel 109

GAS INSTALLATIONS
offices, operating costs 138

GERMAN FEDERAL REPUBLIC
product approval 167

GLASS (*see* Windows)

GLUES
for wood 175

GRANOLITHIC CONCRETE
floors 47

GROUNDWATER (*see* Foundations)

GUTTERS
sizing 188, 189

HARDCORE
materials 142
sulphates in 174

HOSPITALS
refuse output 168
sanitary services, design and maintenance 81

HOTELS
refuse output 168

INDUSTRIAL BUILDINGS
corrosion-resistant floors 120

INSULATION
(*see* Sound *or* Thermal effects)

IRON
painting 70
water services 98

JOINTS
design principles 137
movement joints
—aerated concrete block walls 178
—brickwork 157, 165
—clay tiled floors 79
—lightweight aggregate concrete block walls 123
open drained joints: concrete wall panels 85
plastics water stops 69

LEAD
damp-proof courses 77
painting 71
water services 98

LIFTS
wilful damage 132

LIGHT
daylight
—estimating, in buildings 41, 42
glasses, light transmission factors
—double glazing 140
—single glazing 42
plastics sheets
—light transmission factors 42
—security 122
windows and solar heat gain 162

LOCKS
security 122

MAGNESIUM OXYCHLORIDE
corroding metals 59, 98

MAINTENANCE, CLEANING
aluminium, periodic washing 46
brickwork
—remedying sulphate attack 89
—repointing 58
buildings
—cleaning external surfaces 113
—cracking 75
double glazing 140
drains, clearing pitch fibre, plastics 131
flood damage 152
hospitals, sanitary sevices 81
offices, engineering services 138
organic growths, control 139
plastics, grp cladding 161
repainting
—metals, ferrous 70
—metals, non-ferrous 71
—walls, internal and external 56, 57
—wood 106
—window joinery 73
stainless steel, cleaning 121
stone
—cleaning 113
—colourless preservatives 125
terazzo flooring 47
vandalism and maintenance 132
windows, double 140
wood, clear finishes 46

METALS (*see also* metals by names)
bimetallic corrosion 146
durability in natural waters 98
humid environment, effects 98
magnesium oxychloride, corrosive action 98
paint and other coatings 70, 71
weathering, appearance 46, 121

MORTARS
aerated concrete block walls 178
brick, block, masonry walls 160
corrosion-resistant floorings 120
lightweight aggregate concrete block walls 123
strength relationship with walls 61

MOULD GROWTHS (*see* Fungi)

NETHERLANDS
product approval 166

NOISE (*see* Sound)

NON-FERROUS METALS
painting 71

OFFICES
energy consumption 191
open plan, sound insulation 129
refuse output 168
services, operating costs 138
soil and waste systems, multi-storey 115
traffic noise and overheating 162

PAINTS, PAINTING
asbestos-cement surfaces 55
brick surfaces 55
concrete surfaces 55
metals—ferous 70
—non-ferrous 71
paints—anti-condensation 56, 110
—mould resistant 139
plaster surfaces 55
putty and glazing compounds 106
rendered surfaces 55
stone surfaces 55
walls
—external 56
—internal 56
window joinery 73, 106
wood 106

PARAPET WALLS
damp-proof courses 77
wind loading 119

PARTITIONS
sound insulation 102

PARTY FLOORS
sound insulation 103, 187

PARTY WALLS
sound insulation 102, 187

PILE FOUNDATIONS
installation 95
load-bearing capacity 67
selection 67, 95
settlement 67
soils 63, 67

PLASTERS, PLASTERING, RENDERING
plaster
—characteristics 49
—painting 55
plastering
—systems for various backgrounds 49
—walls to impede damp penetration 27
rendering
—cement and sand, effects of sulphate attack 45
—cement/lime/sand
—characteristics 49
—as a base for paint 55
—cleaning surfaces 113
—on lightweight aggregate concrete block walls 123
—sulphate attack 89

PLASTICS
applications 69
cellular 93
cladding panels, reinforced 161
damp-proof membranes 120
durability 69
floats for ballvalves 15
grp 161
pipes for cold-water service 15
polythene damp-proof course 77
properties 69

PLUMBING (*see* Drainage *and* Water, hot and cold supplies)

PRESERVATIVES FOR WOOD
treatments 18, 72, 106, 182
using glue 175

PRESSED STEEL
rainwater goods 188

PRODUCTION PLANNING, PROGRESS CONTROL
critical path method 53
flow charts for housing contracts 134
project network analysis 53

PUTTY
glazing compounds 106
with wood preservatives 182

RAINFALL
driving-rain index 127
gutter design, rate 188, 189
soakaway design 151

REFUSE
access for collection 169
composition and yield 168
handling and disposal 168, 169

RENDERING (*see* Plasters)

ROOFS, ROOF COVERINGS
asphalt, durability 144
built-up felt 8
—durability 144
condensation 110, 180
coverings
—bitumen felt 8, 144, 180
—corrugated plastics 69
damp-proof courses 77
drainage
—discharge into soil stacks 80
—pipe and gutter sizes 188, 189
—soakaway design 151
flat
—condensation 180
—construction 8
—thermal movement 75
glazing, sound reduction 128
lights, plastics 69
lightweight sheeted, condensation 110
paving 8
sarking, plastics 69
screeds
—drying 8
—lightweight aggregate concrete 123
security 122
sound reduction 128
thermal insulation
—cellular plastics 93
—table of U-values 108
trussed rafter spans 147
wind loads 119

SAFETY
cleaning operations 113
electrical services on site 87
refuse handling installations 169

SCHOOLS
security 122

SCREEDS (*see* floors *or* Roofs)

SECURITY
buildings, sites, wages 122

SETTING-OUT
accuracy 114
BRS tape tension handle 114

SHOPS, SHOPPING CENTRES
refuse output 168
security 122
smoke control 173

SITES
electrical supplies 179
filled 142
investigation 64
noise emission 184
progress control 134
removing rubbish 132
security 122
setting-out 114

SKIRTINGS
wood 18
wood, painting 108

SLATE
cleaning 113
damp-proof courses 77
effect of design on weathering 46

SOILS (*see* Foundations)

SOIL AND WASTE SYSTEMS
dwellings 80
offices, multi-storey 115

SOLAR HEAT
double glazing 140
window design 162

SOUND, ACOUSTICS, INSULATION, NOISE
acoustics, rooms for speech 192
aerated concrete
—sound absorption and insulation 178
cellular plastics, acoustic uses 93
double glazing 140
floating screeds 104
insulation, basic principles 143
insulation between dwellings
—floors 103
—grading system 102
—lightweight construction 187
—walls 102
insulation, external noise 128, 129, 140
lightweight aggregate concrete floor screeds, sound insulation 123
loudspeaker systems 193
noise
—barriers
—demolition and construction 184
—in ventilation ducts and fans 129, 170
—pile driving 95
—road traffic 185, 186
—road traffic and overheating 162
vibrations, audible range 117

STAINLESS STEEL
back boilers 83
building uses 121
plumbing 83

STEEL, REINFORCING
corrosion risk in lightweight aggregate concrete 123
protection against corrosion 59, 109
zinc-coated 109

STONE, PRESERVATION, WATERPROOFING (*see also* Slate)
cleaning 113
colourless preservatives 125, 177
colourless water-repellents 125, 177
conservation 177
mortars for masonry 160
Portland
—effect of design on weathering 45
stone, as a base for paint 56

STRENGTH, STABILITY
filled sites 142
foundations, loading 67
foundations, pile, structural requirements 95
lightweight aggregate concrete
—block walls 123
—structural properties 111
oscillation of slender structures 119
roofs
—trussed rafter spans 147
softwoods
—working stresses 72
softwoods, homegrown
—strengths and grading 72
structural design and architecture 12
structural problems
—flooding 152
walls 61
wind loads 119

SULPHATE ATTACK
brickwork 75, 89, 165
cement and concrete 175
chimneys 60
floors, concrete 75
mortar 160
renderings 89

SWEDEN
product approval 167

TAPE
constant-tension handle 114

THERMAL EFFECTS
heat bridging 108
heat losses
—calculation 190
—ground floors 145, 190
insulation
—chimneys 60
—floors 93, 145
—plumbing, cellular plastics 93
—roofs 93
—walls 93
—windows 140
—wood floors 18, 145
properties
—aerated concrete 178
—cellular plastics 93
—concrete 150
—lightweight aggregate concrete 123
screeds, lightweight concrete 104, 123
sun controls in warm climates 92
traffic noise and offices 162
U-values
—calculation 108, 145
—ground floors 145, 190
—roofs and walls 108, 190

TOXIC WASHES
to control organic growths 139

TRAFFIC
noise and dwellings 185, 186
noise and offices 162
vibration and buildings 117, 118

TREES
roots, effects on foundations 63, 64

U-VALUES
ground floors 145, 190
walls and roofs 108, 190

VANDALISM
housing estates 132

VAPOUR BARRIERS
insulated wood floors 145

VENTILATION
double windows 140
heat losses 190
internal bathrooms and WCs 170
noisy locations 129
offices, fresh air requirements 162

VIBRATIONS
damage to buildings 117, 118
in buildings 117, 118

WALLS
cavity
—aerated concrete block 178
—foamed plastics fill 93
—lightweight aggregate concrete block 123
—strength 61
cleaning, external 113
condensation 110
cracking 75
dampness, damp-proof courses (*see* Dampness)
lining 27
mortars 61, 160
painting 55, 56, 57
parapets
—damp-proof courses 77
—wind loading 119
sound insulation
—basic principles 143
—external walls 128, 129
—party walls 102, 187
strength 61
sulphate attack 75, 89
thermal transmittance 108
water-repellent treatments 128
wind loads 119

WATER, HOT AND COLD SUPPLIES
ballvalve, Garston pattern 15
plastics, pipes and fittings 69
plumbing
—domestic 15
—insulation, aerated concrete 17
—insulation, cellular plastics 93
—wilful damage 132
sanitary fittings
—generally 15
—plastics 69
—wilful damage 132
water
—effect on metals 98
—hardness; impurities 98
water pipes
—cold water supply 15
—metal corrosion 98
—plastics 69
—stainless steel 83
water services, modernising 146

WCs, INTERNAL
ventilation 170

WEATHERING (*see* Durability)

WIND
assessment of loads 119
Beaufort scale 141
environment around tall buildings 141

WINDOWS (*see also* Light)
double-glazed 140
frames, plastics 69
glasses
—light transmission 42, 140
—sound transmission 128
joinery—preventing decay 73, 106
offices, effect on overheating 162
opening windows
—effect on noise 129
—effect on wind loads 119

painting
—metals 70, 71
—wood 106
putty and glazing compounds 106
security 122
sound insulation 128, 129, 153, 185, 186

WOOD
blue-stain 72, 182
cladding, weathering 46
clear finishes 106, 182
Dutch elm disease 194
efficient and economic use 181
elm, uses 194
fire doors 155
floors 18
glues 175
moisture measurement 163
painting 106
preservative treatments 18, 72, 106, 182
sap stain 72
skirtings 18
softwood, homegrown 72
specifying timber 156
structure 106
thermal resistivity 110
trussed rafter spans 147
vapour resistivity 110
weathering
—effect on design 46
—external influences 106
window joinery, preventing decay 73

WORKING DRAWINGS
arrangement of sets 172

ZINC
coatings 70
coatings, reinforcing steel 109
painting 71

All digests are obtained via H.M.S.O. Bookshop P.O. Box 569 LONDON SE1 9NH or through Subscription to various British Journals.

Department of the Environment **Building Research Establishment**

Prepared at Building Research Station, Garston, Watford WD2 7JR
© *Crown copyright 1976*
Published by Her Majesty's Stationery Office and printed in England by Benham and Company Limited, Colchester.
10p. Single copies [redacted] each. Annual subscription inclusive of postage £2·25 for 12 monthly issues and new editions of earlier Digests.
Quantity rates (excluding postage) for bulk supply of any one Digest: [redacted], 50 for £[redacted], [redacted]

Dmd. 496352 K606 11/76 4.00 ISBN 0 11 724091 5